

**Two rare Plecopterans from the Rába: *Agnentina elegantula*
(Klapálek, 1905) and *Marthamea vitripennis* (Burmeister, 1839)
(Plecoptera: Perlidae)**

by

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Abstract: This article reports the capturing of the larvae of two rare plecopterans from the Hungarian section of the River Rába. *Agnentina elegantula* (Klapálek, 1905) is new for the Hungarian fauna, while *Marthamea vitripennis* (Burmeister, 1839) has been first captured since 1914. The localities where the two species were collected are indicated on a map.

Keywords: Hungary, River Rába, Plecoptera larva, faunistics, distribution, communities, habitat

Introduction

Parallel with their collecting of *Ephemeroptera* larvae the authors have started the collecting of *Plecoptera* larvae. From the collected material first they intend to publish the data regarding two species of plecopterans that are both rare and endangered at European level. This paper is based on the results of collecting activities carried out between 8th April 1994 and 6th March 1999 at 445 sampling points, where altogether 654 collectings were performed. From among these 31 collectings were carried on the River Rába at 19 sampling points. The information regarding the study area, collecting methods and the structure of the published data is the same as in Kovács *et al.* (1998). The collected material is preserved in 70% ethanol and is stored in the Mátra Museum (Gyöngyös).

Results

Agnentina elegantula (Klapálek, 1905)

Hungary: Körmend: Route No. 86, Rába, 190 m, XN20, 19.06.1997, 1, A. Ambrus, K. Bánkúti, T. Kovács — Magyarlak: lido, Rába, 215 m, XN00, 19.06.1997, 2, A. Ambrus, K. Bánkúti, T. Kovács — Rábahídvég: Route No. 8, Rába, 180 m, XN31, 18.08.1998, 1, A. Ambrus, T. Kovács — Sárvár: Route No. 84, Rába, 155 m, XN43, 12.05.1998, 2, A. Ambrus, K. Bánkúti, T. Kovács — Austria: Königsdorf: Lafnitz, 230 m, 24.06.1998, 2, A. Ambrus, K. Bánkúti, T. Kovács.

This species was formerly known from the Czech Republic (Klapálek, 1905), Germany (Zwick 1984a), Poland (Zwick 1984a; Kittel & Wojtas 1988; Kittel 1991), and lately was also found in Austria (Graf 1997), and the Slovak Republic (Soldan *et al.* 1998).

On the four localities situated on the River Rába the following rare Odonatas and Plecopterans were collected with this species (Kovács *et al.* 1998, 1999, 2000, Ambrus *et al.* 1998b): Ephemeroptera: *Oligoneuriella keffermuelleriae*, *Heptagenia coeruleans*, *Ephemerella mesoleuca* — at three localities; *Isonychia ignota*, *Ephoron virgo* — at two localities; *Ametropus fragilis*, *Oligoneuriella pallida*, *O. rhenana*, *Ephemerella notata*,

Neophemera maxima, *Brachycercus europaeus*, *Cercobrachys minutus* – at a single locality; Odonata: *Ophiogomphus cecilia*, *Onychogomphus forcipatus* – at three localities: *Stylurus flavipes* – at two localities: on the Lafnitz *Heptagenia coerulans*, *Oligoneuriella rhenana* and *Ophiogomphus cecilia* (Ambrus *et al.* 1998a) were present. Despite several collecting trials this species was not found above the mouth of the Lafnitz on the Rába neither on the Hungarian (Szakonyfalu) nor on the Austrian (Neumarkt, Mogersdorf) section.

Marthamea vitripennis (Burmeister, 1839)

Hungary: Rábapatoná: road towards Koroncó, Rába, 110 m, XN87, 05.05.1999, 1, T. Kovács.

This species is known from South Western, Middle, and South Eastern Europe (Zwick, 1984b). Two localities are known from Hungary: Forró (Mocsáry, 1899) and Budapest (Pongrácz, 1914).

On the Little Hungarian Plain section of the River Rába, 14 kms from the mouth into the Mosoni-Duna a mature larva was collected from under a willow bush flooded by the river. At this sampling point the following rare mayfly and dragonflies were found *Ephemerella notata*, *Stylurus flavipes* and *Ophiogomphus cecilia*. (The flooding of the river made the collecting very difficult, during low water conditions a more diverse and more abundant fauna can be expected.)

Discussion

The five localities on the Rába and a further one on the Lafnitz of *Agnentina elegantula* is located on the hill-foot or hill area sections of these water bodies. On the higher river sections more rheophilous species are found. From our data it is evident that all sampling point harbours a diverse and hence valuable community. The Lafnitz and under its mouth the Rába down till Sárvár forms a unit as regards to the distribution of this species. *Marthamea vitripennis* was only found on the lower, plain section of the Rába. Zwick (1984b) publishes data from localities 1564 m a.s.l.. The detailed faunistic research of Rába section in between the area of the two species (from Sárvár to Rábapatoná) might further refine the distribution map of these species reflecting our present-day knowledge (Fig. 1). We should mention here that in the identification key of Steinmann (1968) the drawing of *Marthamea vitripennis* larva [reprinted from Schoenemund (1927) (Figure 146. A)] in reality depicts *Agnentina elegantula* cf. Zwick, 1984a. The occurrence of these rare and endangered species on the Hungarian section of River Rába indicates the good water quality and near-natural state of this river, and emphasise the need of its protection.

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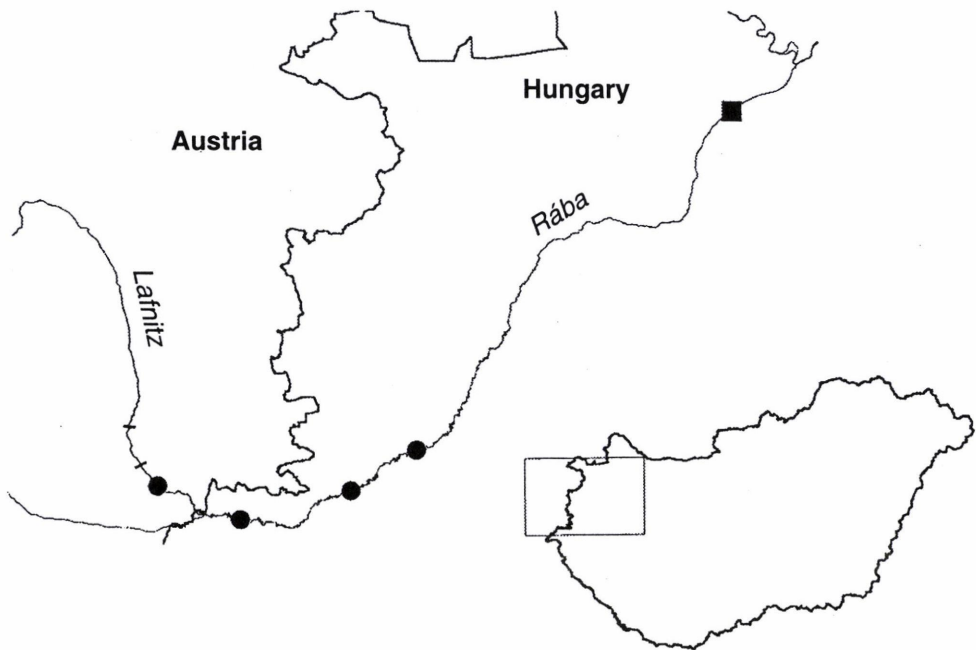


Fig. 1. The localities of *Agnetina elegantula*: ‡ (Graf 1997), ● and *Marthamea vitripennis*: ■ on the Rába and Lafnitz.

References

- Ambrus, A., Bánkuti, K. & Kovács, T. (1998a): Larval and adult data on the Odonata fauna of Burgenland (Austria) II. — *Odonata – stadium larvae* **2**: 5–8.
- Ambrus, A., Bánkuti, K. & Kovács, T. (1998b): Data to the Odonata fauna of Kisalföld, and the West-Hungarian marginal zone II. — *Odonata – stadium larvae* **2**: 9–16.
- Graf, W. (1997): A new record of the perlid stonefly *Agnetina elegantula* (Klapálek, 1905) in Europe. — In: Landolt P. & Sartori M. (eds): *Ephemeroptera & Plecoptera: Biology-Ecology-Systematics*. Maron+Tinguely & Lachat SA, CH-Fribourg, pp. 205–208.
- Kittel, W. (1991): Widelnice (Plecoptera) Gór witokrzyskich. — *Fragm. faun. (Warszawa)* **35** (3): 31–47.
- Kittel, W. & Wojtas, F. (1988): Materiay do Poznania Widelnic (Plecoptera) Polski. — *Acta Univ. Lodz., Folia limnol.* **3**: 225–238.
- Klapálek, F. (1905): Conspectus Plecopteriorum bohemiae. — *as. es. spol. ent.* **2**: 27–32.
- Kovács, T., Ambrus, A., Bánkuti, K. & Juhász, P. (1998): New Hungarian mayfly (Ephemeroptera) species arising from collectings of larvae. — *Miscnea zool. hung.* **12**: 55–60.
- Kovács, T., Ambrus, A., & Bánkuti, K. (1999): Data on the distribution of *Oligoneuriella* larvae in Hungary (Ephemeroptera: Oligoneuriidae). — *Folia ent. hung.* **60**: 349–354.
- Kovács, T., Ambrus, A. & Juhász, P. (2000): New Hungarian mayfly (Ephemeroptera) species arising from collectings of larvae II. — *Miscnea zool. hung.* **13**: 81–83.
- Mocsáry, S. (1899): Ordo. Pseudo-neuroptera. — In: A Magyar Birodalom Állatvilága (Fauna Regni Hungariae). — A. K. M. Természettudományi Társulat, Budapest. 23–27.

- Pongrácz, S. (1914): Magyarország Neuropteroidái. [Neuropteroides of Hungary] — *Rovart. Lap.* **21**: 109–155.
- Schoenemund, E. (1927): *Plecoptera*. — In: Brohmer, P., Ehrmann, P. & G. Ulmer (eds): *Die Tierwelt Mitteleuropas* 4 (1), Lief. 2: 1–18.
- Soldán, T., Zahrádková, S., Helešic, J., Dušek, L. & Landa, V. (1998): Distributional and quantitative patterns of *Ephemeroptera* and *Plecoptera* in the Czech Republic: a possibility of detection of long-term changes of aquatic biotopes. — *Folia Fac. Sci. Nat. Univ. Masarykianae Brunensis*, Brno, 305 pp.
- Steinmann, H. (1968): *Álkérészek – Plecoptera*. — In: Magyarország Állatvilága (Fauna Hungariae) **92**: 1–185.
- Zwick, P. (1984a): Notes on the genus *Agnatina* (= *Phasganophora*) (Plecoptera: Perlidae). — *Aquat. Ins.* **6** (2): 71–79.
- Zwick, P. (1984b): *Marthamea beraudi* (Navás) and its European congeners (Plecoptera: Perlidae). — *Annls Limnol.* **20** (1-2): 129–139.

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